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A new genus and species of the spider family Linyphiidae (Aranei) from Israel

Новые род и вид пауков семейства Linyphiidae (Aranei) из Израиля

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КЛЮЧЕВЫЕ СЛОВА: таксономия, паукообразные, Ближний Восток, Левант.

ABSTRACT. A new erigonine genus, *Protosintula* gen.n., is described based on the type species *Protosintula tenebrosus* sp.n. from Israel. The genus seems to be especially similar to the genus *Sintula* Simon, 1884, but differs by the unmodified cymbium and a peculiar leg chaetotaxy pattern.

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РЕЗЮМЕ. Новый род *Protosintula* gen.n. с типовым видом *Protosintula tenebrosus* sp.n. описаны из Израиля. Род наиболее близок к *Sintula* Simon, 1884 от которого отличается немодифицированным цимбиумом и хетотаксией.

Introduction

The linyphiid fauna of Israel is presently known to comprise at least 47 species, of which about half stem from that country [Pickard-Cambridge, 1872; Pluess *et al*., 2008; Tanasevitch, 2011, 2013, 2020; Zonstein, Marusik, 2013; Zonstein *et al*., 2015].

A small spider material collected during a brief trip across Israel in 2011 (see Tanasevitch [2013]) contained a few unidentified species. One of these represented by a single male was provisionally determined as being close to the genus *Sintula* Simon, 1884. However, a closer study showed this similarity to have only been based on the structure of the embolic division, whereas other characteristic features in the male palp of *Sintula*, such as a highly modified cymbium with proximal process(es) and various formations like setae, outgrowth(s), teeth, etc., were all absent. This has prompted me to establish a new genus for that species alone, which undeniably does resemble *Sintula*.

The small erigonine genus *Sintula* is currently known to encompass 17 accepted species mostly confined to the Mediterranean realm (North Africa, Macaronesia, Iberian Peninsula, Austria, France, Balkan Peninsula, Ukraine, Caucasus, Near East). The type species is *S. corniger* (Blackwall, 1856), recorded from Europe, Turkey and the Caucasus [World Spider Catalog, 2021].

Material and methods

The holotype is kept in the Zoological Museum of the Moscow State University, Moscow, Russia (ZMMU. The holotype is preserved in 70% ethanol and has been studied using a MBS-9 stereo microscope. A Levenhuk C-800 digital camera was applied for taking some pictures. The sequence of leg segment measurements is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are given in millimeters. The chaetotaxy is given in a formula, e.g., TiI: 2-1-1-0, which means that tibia I has two dorsal spines, one pro-, one retrolateral spine, and no ventral spines (the apical spines are disregarded). Scale bars in the figures correspond to 0.1 mm unless indicated otherwise. Figure numbers are shown above the scale bars. The terminology concerning the structure of the copulatory organs mainly follows that of Merrett [1963], as well as those of the authors mentioned in the Abbreviations section below.

The following abbreviations are used in the text and figures: Co — column *sensu* Saaristo [1971], D — duct, DSA — distal suprategular apophysis *sensu* Hormiga [2000], EP — embolus proper *sensu* Saaristo [1971], Fe — femur, MM — median membrane *sensu* Helsdingen [1965], Mt — metatarsus, R — radix, T — tegulum, Ti — tibia, TmI — position of a trichobothrium on metatarsus I.

Order Aranei Clerck, 1758
Family Linyphiidae Blackwall, 1859
Subfamily Erigoninae Emerton, 1882

Protosintula **gen.n.**

TYPE SPECIES: *Protosintula tenebrosus* sp.n.

NAME. The generic name is a combination of two words, “proto” and *Sintula*, meaning “primary” and related to *Sin-*





Figs 1–2. *Protosintula tenebrosus* sp.n., ♂ holotype. 1 — habitus, dorsal view; 2 — prosoma, frontal view.
Рис. 1–2. *Protosintula tenebrosus* sp.n., ♂ голотип. 1 — внешний вид сверху; 2 — головогрудь спереди.

tula, but showing a much more simple male palp. The gender is masculine.

DIAGNOSIS. The new genus of Erigoninae is diagnosed by the peculiar chaetotaxy, an unmodified cymbium, as well as the compact, poorly sclerotized embolic division with a very short embolus.

DESCRIPTION. See description of the type species.

TAXONOMIC REMARKS. Based on the structure of the embolic division, namely, the compact, poorly sclerotized embolic division with a very short embolus, as well as the presence of a dorsal spine each on metatarsi I–II, the new genus seems to be especially similar to *Sintula* Simon, 1884. *Protosintula* gen.n. differs by the unmodified cymbium, i.e., the absence of peculiar posterodorsal cymbial process(es) furnished with setae, teeth, apophyses, etc. *Protosintula* gen.n. is also distinguished from *Sintula* by the leg dorsal spine formula, i.e., 2.2.2.1 *vs* 2.2.1.1.

SPECIES INCLUDED. Only the type species.

DISTRIBUTION. Known only from Israel.

Protosintula tenebrosus **sp.n.**
Figs 1–9.

HOLOTYPE ♂ (ZMMU), ISRAEL, Central Negev Desert, Sede Boqer (30.848598°N, 34.778367°E), under stone near building, by hand, 5.X.2011, leg. A. Tanasevitch.

NAME. The species epithet is a Latin adjective meaning "dark", referring to the body colour.

DESCRIPTION. Male holotype. Total length 2.20. Carapace unmodified, 1.03 long, 0.75 wide, blackish brown, with vague, grey, radial stripes (Fig 1). Chelicerae unmodified, 0.45 long, promargin of each with two large tooth, retromargin with one or two small teeth (Fig. 2). Legs yellow, with dark longitudinal stripes and infuscate ends of leg segments. Leg I, 3.16 long (0.88 + 0.30 + 0.80 + 0.68 + 0.50), IV, 3.36 long (0.93 + 0.25 + 0.93 + 0.80 + 0.45). Chaetotaxy: FeI–IV spineless; TiI-II: 2-0-1-0, TiIII: 2-0-0-0, TiIV: 1-0-0-0; MtI–II: 1-0-0-0, MtIII–IV spineless. Spines 1–1.5x as long as diameter of corresponding leg segment. TmI, 0.32. Metatarsi IV without trichobothria. Palp (Figs 3–9): patella slightly elongated, dorsally terminating in a weak spine. Tibia black, unmodified. Cymbium black, with a small, rounded, posterodorsal convexity. Paracymbium L-shaped, with a poorly expressed projection on its posterior side. Tegulum with a wrinkled surface in protegulum area. Distal suprategular apophysis long, narrow, regularly curved, with a triangular outgrowth near middle. A median membrane present, short. Embolic division bean-shaped, compact, poorly-sclerotized, its external lobe serrate. Embolus a very short needle. Abdomen (Fig. 1) 1.23 long, 0.75 wide, almost black.

Female unknown.

TAXONOMIC REMARKS. See above.

DISTRIBUTION. Known only from Israel.

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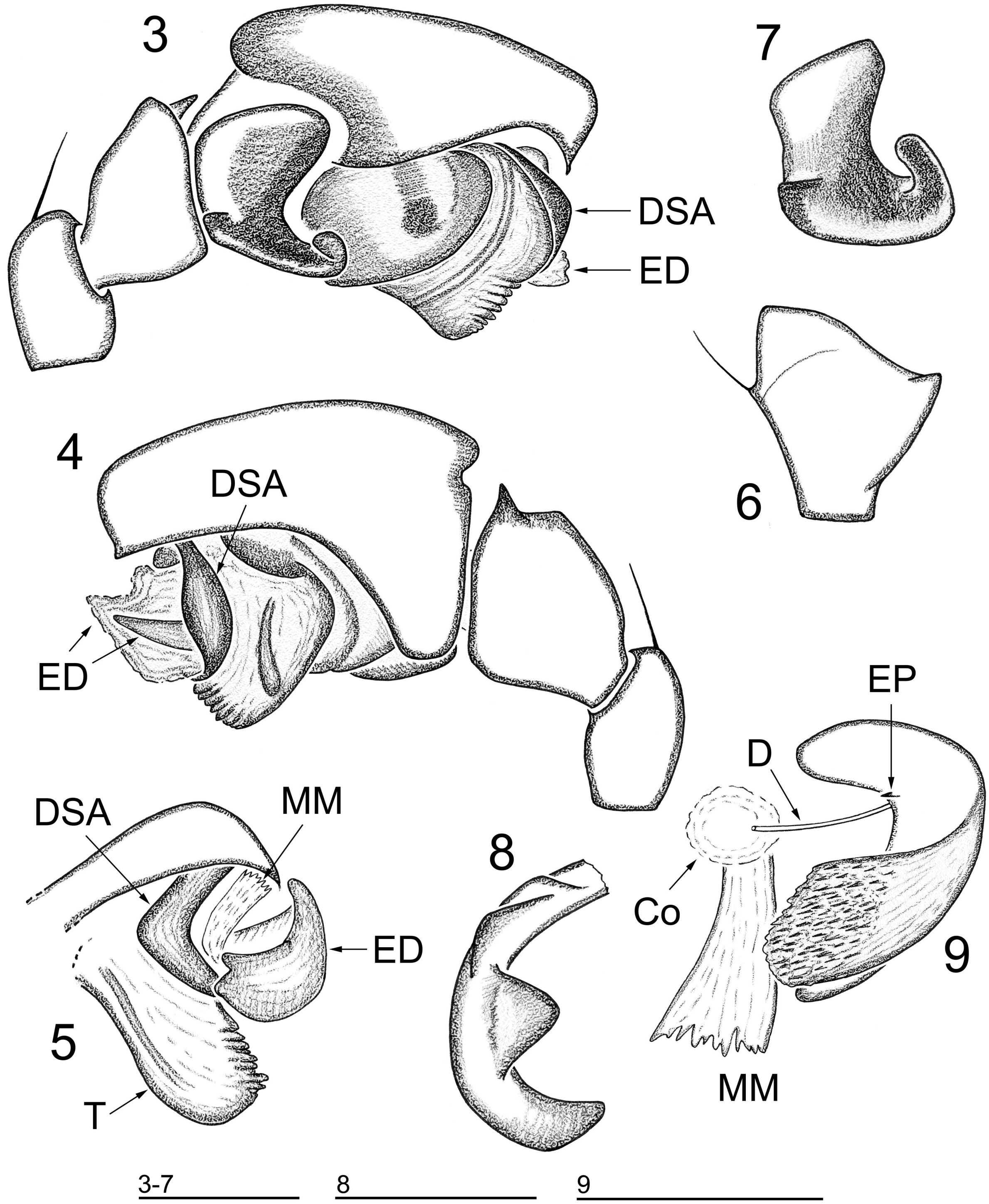
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Figs 3–9. Details of male palpal structure of *Protosintula tenebrosus* sp.n., holotype. 3–4 — right palp, retrolateral and prolateral view, respectively; 5 — distal part of palp, prolateral view; 6 — palpal tibia, dorsal view; 7 — paracymbium; 8 — distal suprategular apophysis; 9 — embolic division and median membrane, ventro-prolateral view.

Рис. 3–9. Детали строения пальпы самца *Protosintula tenebrosus* sp.n., голотип. 3–4 — правая пальпа соответственно ретролатерально и пролатерально; 5 — дистальная часть пальпы пролатерально; 6 — голень пальпы сверху; 7 — парацимбиум; 8 — дистальный отросток супратегулюма; 9 — эмболюсный отдел и медиальная мембрана пролатерально и снизу.

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